

# Pneumatic actuator (A/R series)

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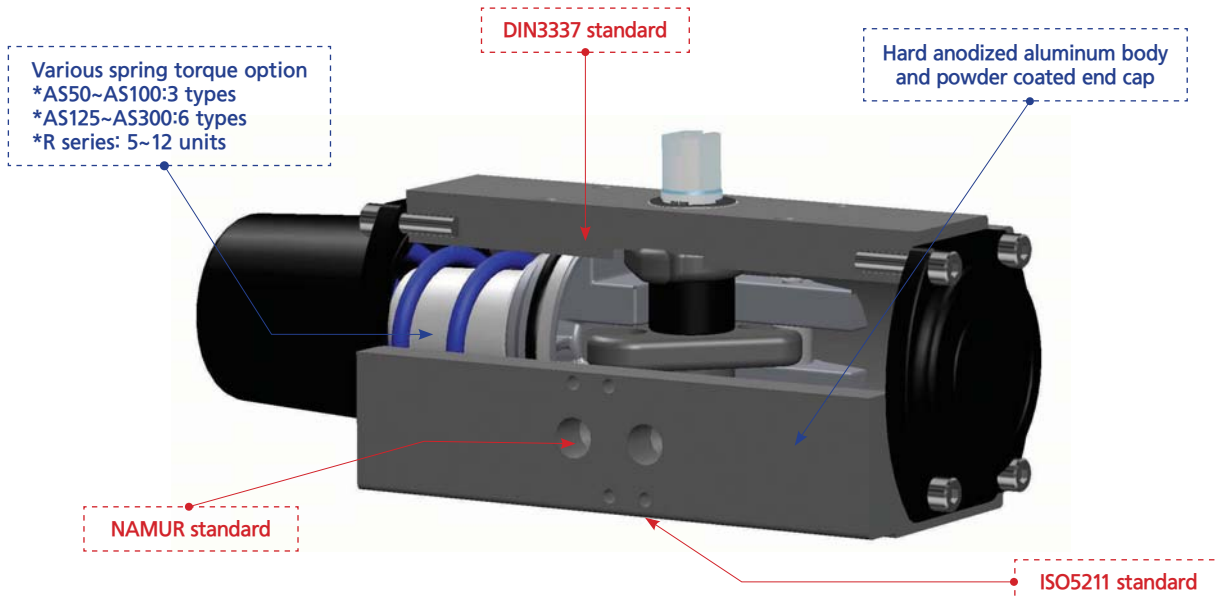
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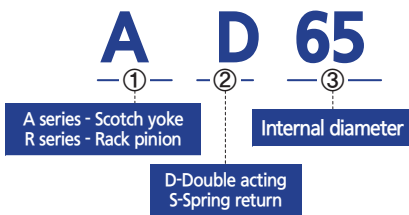
Various option

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## ► Model range



AD	50/65/80/100/125/140/160/185/210/250/300
AS	50/65/80/100/125/140/160/185/210/250/300
RD	32/40/50/65/80/90/100/115/125/140/160/185/210
RS	40/50/65/80/90/100/115/125/140/160/185/210



## ► Model code

**A 6 N D - A K K B - 101 2 C 27 - OP**

a   b   c   d   e   f   g   h   i   j   k

**Mechanism**

A : scotch yoke  
R : rack pinion

**O-RING**

N : NBR\*  
V : Viton (High temp.)  
E : EPDM(Low temp.)

**Action**

A : Action A\* (Fail closed)  
B : Action B (Fail open)  
C : Action C (Fail closed/Open CW)  
D : Action D (Fail open/Open CW)

**End cap color**

K : Black painted\*  
L : Blue painted  
M : Mint painted  
R : Red painted

**Diameter**

3 : 32  
4 : 40  
5 : 50  
6 : 65  
8 : 80  
9 : 90  
10 : 100  
11 : 115  
:

**SPRING**

D : Double acting  
W : Weak spring  
WM : Weak Middle spring  
WS : Weak Strong spring  
M : Middle spring  
MS : Middle strong spring  
S : Strong spring  
\*Refer to page 5.

No. : RS spring q'ty  
\*Refer to page 11

**Body color**

K : Hard anodized\*  
L : Blue anodized  
W : White anodized  
Y : Yellow anodized  
R : Red anodized

**Indicator**

A : A type  
B : B type  
C : C type  
D : D type  
\* Refer to page 14

**ISO5211**

3 : F03  
5 : F05  
:

**STEM**

C11 : 11\*11 (center stopper)  
C14 : 14\*14

**OPTION**

T4 : PT1/4  
T8 : PT3/8  
T2 : PT1/2  
N4 : NPT1/4  
N8 : NPT3/8  
N2 : NPT1/2

O45 : Open -45 ° (center stopper)  
SE1 : end cap stopper  
HW : Hand wheel  
\* Refer to page 15~16

\*Standard

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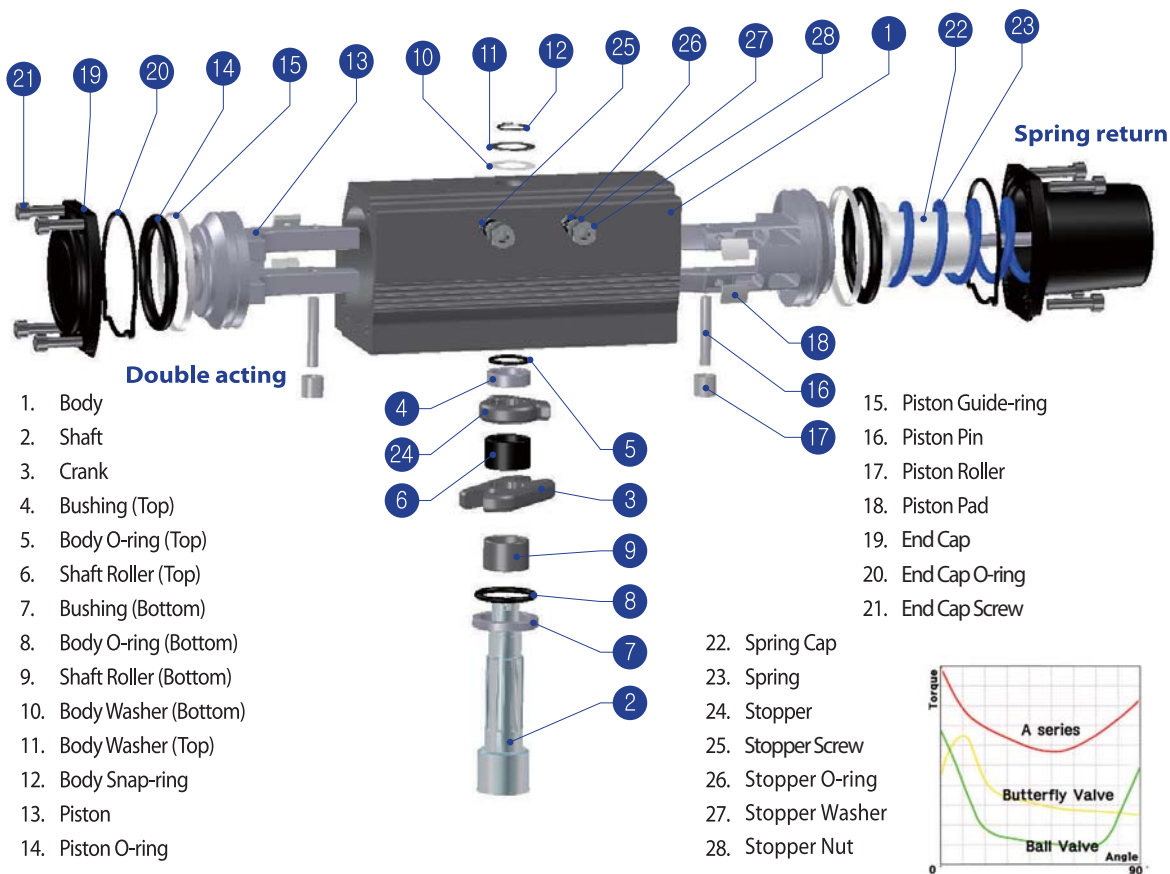
R series Torque table

Various option

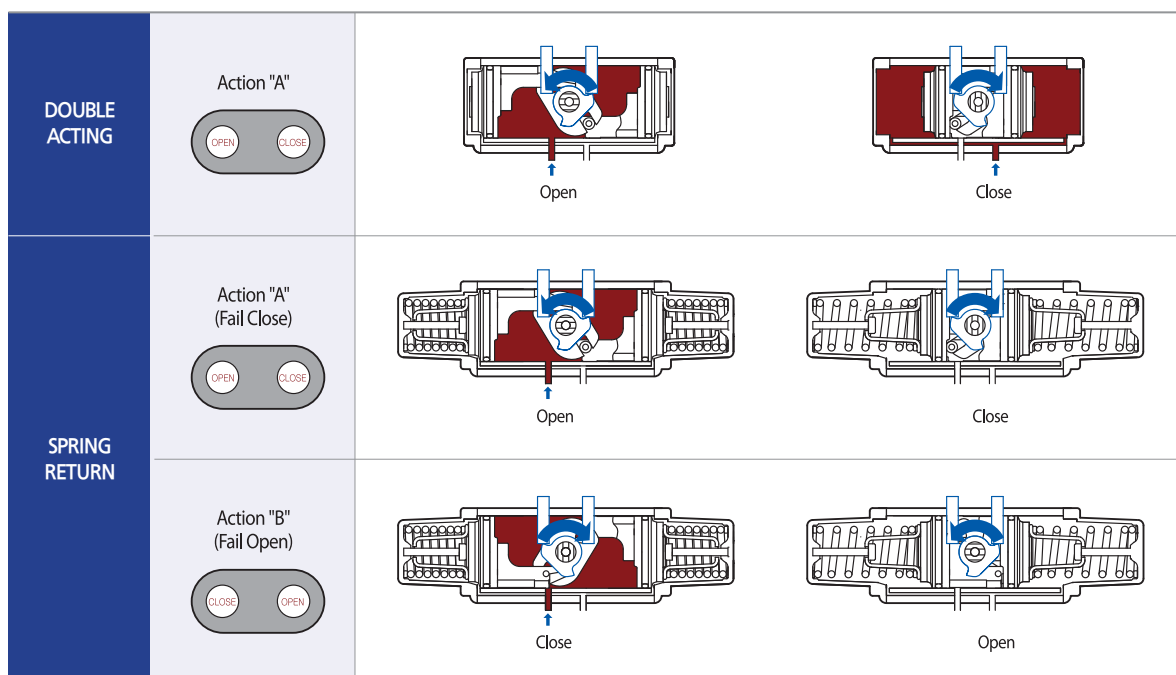
Limit switch box

Positioner

► Part list



► Operating mechanism



## ► Selection guide

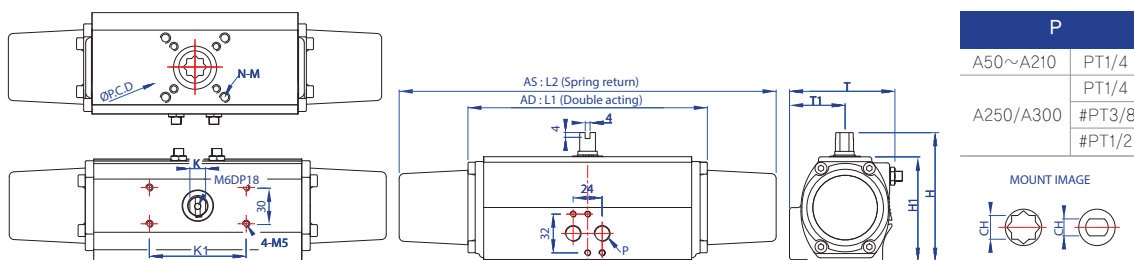
Valve Size		Double acting		Spring return	
		Ball valve	Butterfly valve	Ball valve	Butterfly valve
1/2"	15A	AD50		AS50	
3/4"	20A				
1"	25A				
1-1/4"	32A	AD65		AS65	
1-1/2"	40A				
2"	50A		AD50		
2-1/2"	65A				
3"	80A	AD80		AS100	AS65
4"	100A				
5"	125A	AD125	AD65	AS125	AS80
6"	150A	AD140		AS140	
8"	200A	AD160		AS160	
10"	250A	AD185	AD80	AS185	AS100
12"	300A	AD210		AS210	
14"	350A	AD250	AD125	AS250	AS125
16"	400A	AD300	AD140	AS300	AS140
18"	150A		AD160		AS160
20" ~ 22"	500A ~ 550A		AD185		AS185
24" ~ 32"	600A ~ 800A		AD210		AS210
34" ~ 40"	850A ~ 1000A		AD250		AS250
			AD300		AS300

•Based on 10K/#150

•The above data is for reference only; the actual assembly may be different depending on valve material, pressure, structure, fluid and operational environment.

•The data is not legally effective and therefore should not be used as legal ground.

## ► Dimension table



P	
A50~A210	PT1/4
	PT1/4
A250/A300	#PT3/8
	#PT1/2

MOUNT IMAGE



※Unit:mm

MODEL	K1	ISO	P.C.D(∅)	N-G	K	AD L1	AS L2	T	T1	H	H1	CH	Stem depth	AD WG(Kg)	AS WG(Kg)
A50	80	F03/F05/F07	36/50/70	4-M5/M6/M8	9	162	257	75	40	90	70	11*11	13	1.4	1.6
												#14*14	14		
												#9.7*∅15	14		
A65	80	F05/F07	50/70	4-M6/M8	13	202	314	89	46	107	87	14*14	17	2.3	3.0
												#11*11	13		
												#11.7*∅17	17		
A80	80	F07	70	4-M8	13	253	421	101	49.5	126	106	17*17	19	3.9	5.3
												#14.7*∅19	20		
A100	80	F07/F10	70/102	4-M8/M10	19	311	500	129	61.5	148	128	22*22	26	6.7	9.5
												#17.7*∅22	26		
A125	80	F07/F10	70/102	4-M8/M10	19	390	606	151	71.5	174	154	22*22	26	11.3	17.6
A140	80	F10/F12	102/125	4-M10/M12	24	431	682	164	77	192	172	27*27	30	16.4	23.9
												#22*22			
A160	80	F14	140	4-M16	24	506	781	188	89	216	196	36*36	38	23.7	36.6
		#F10/F12	#102/125	#4-M10/M12								#27*27			
A185	80/130	F14	140	4-M16	24	578	894	217	102	244	224	36*36	38	34.8	56.9
A210	130	F16	165	4-M20	36	605	982	231	115	284	254	46*46	60	45.5	77.2
		#F14	140	4-M16								#36*36			
A250	130	F16	165	4-M20	36	755	1108	301	152	335	305	46*46	60	65.8	119.6
A300	130	F16/F25	165/254	4-M20/8-M16	36	889	1345	372	170	408	378	55*55	60	165.0	275.5

# Contents

## ► AD series Torque table

※ Unit : Nm

Model	Angle	Supply air (Air to)													
		3Bar		4Bar		4.5Bar		5Bar		6Bar		7Bar		8Bar	
		Close	Open	Close	Open	Close	Open	Close	Open	Close	Open	Close	Open	Close	Open
AD50	0°	31.4	24.7	42.8	32.3	48.5	36.1	54.2	39.9	66.5	47.5	78.9	54.2	92.2	60.8
	45°	15.2	15.2	20.0	20.0	22.8	22.8	25.7	24.7	30.4	29.5	36.1	34.2	40.9	39.9
	90°	23.8	29.5	31.4	39.9	35.2	45.6	39.0	48.5	46.6	59.9	53.2	71.3	60.8	82.7
AD65	0°	77.9	54.2	108.3	69.4	12.4	77.9	138.7	84.6	169.1	99.8	199.5	115.0	229.9	130.2
	45°	35.2	33.3	45.6	43.7	51.3	49.4	57.0	55.1	68.4	65.6	80.8	76.0	92.2	87.4
	90°	52.3	65.6	69.4	88.4	77.0	100.7	85.5	111.2	102.6	134.0	119.7	156.8	136.8	179.6
AD80	0°	152.0	99.8	209.0	133.0	237.5	152.0	266.0	166.3	323.0	199.5	380.0	228.0	437.0	261.3
	45°	66.5	57.0	90.3	76.0	99.8	85.5	109.3	95.0	133.0	114.0	156.8	137.8	175.8	161.5
	90°	104.5	118.8	137.8	166.3	152.0	190.0	166.3	218.5	199.5	266.0	232.8	318.3	266.0	365.8
AD100	0°	232.8	180.5	323.0	247.0	361.0	275.5	399.0	304.0	475.0	365.8	560.5	418.0	646.0	470.3
	45°	114.0	109.3	152.0	147.3	171.0	166.3	190.0	185.3	232.8	223.3	275.5	266.0	318.3	304.0
	90°	190.0	190.0	256.5	266.0	289.8	304.0	318.3	342.0	384.8	418.0	446.5	494.0	508.3	560.5
AD125	0°	551.0	389.5	750.5	508.3	874.0	574.8	997.5	631.8	1,197.0	745.8	1,396.5	855.0	1,596.0	959.5
	45°	247.0	242.3	332.5	323.0	370.5	361.0	413.3	399.0	498.8	475.0	584.3	555.8	665.0	631.8
	90°	394.3	451.3	527.3	612.8	589.0	698.3	646.0	821.8	774.3	983.3	893.0	1,144.8	1,002.3	1,306.3
AD140	0°	741.0	589.0	1,026.0	779.0	1,178.0	874.0	1,311.0	969.0	1,596.0	1,159.0	1,881.0	1,339.5	2,166.0	1,491.5
	45°	337.3	318.3	451.3	427.5	508.3	479.8	570.0	532.0	684.0	641.3	798.0	750.5	912.0	864.5
	90°	527.3	579.5	693.5	788.5	788.5	893.0	878.8	1,007.0	1,040.3	1,263.5	1,206.5	1,539.0	1,368.0	1,805.0
AD160	0°	1,121.0	902.5	1,539.0	1,187.5	1,738.5	1,330.0	1,947.5	1,472.5	2,384.5	1,748.0	2,850.0	2,033.0	3,325.0	2,299.0
	45°	522.5	503.5	703.0	674.5	788.5	760.0	878.8	845.5	1,059.3	1,011.8	1,235.0	1,182.8	1,415.5	1,349.0
	90°	845.5	978.5	1,125.8	1,363.3	1,268.3	1,581.8	1,401.3	1,805.0	1,676.8	2,123.3	1,947.5	2,503.3	2,208.8	2,883.3
AD185	0°	1,833.5	1,187.5	2,470.0	1,520.0	2,783.5	1,719.5	3,097.0	1,900.0	3,686.0	2,251.5	4,294.0	2,584.0	4,902.0	2,888.0
	45°	802.8	817.0	1,073.5	1,092.5	1,206.5	1,225.5	1,339.5	1,349.0	1,605.5	1,615.0	1,881.0	1,890.5	2,156.5	2,147.0
	90°	1,311.0	1,406.0	1,729.0	1,919.0	1,928.5	2,175.5	2,137.5	2,441.5	2,527.0	3,021.0	2,916.5	3,581.5	3,296.5	4,256.0
AD210	0°	2,137.5	1,976.0	2,945.0	2,612.5	3,344.0	2,888.0	3,724.0	3,163.5	4,560.0	3,676.5	5,367.5	4,218.0	6,317.5	4,750.0
	45°	1,083.0	1,102.0	1,444.0	1,491.5	1,615.0	1,662.5	1,805.0	1,852.5	2,166.0	2,223.0	2,527.0	2,593.5	2,897.5	2,945.0
	90°	1,748.0	1,824.0	2,318.0	2,432.0	2,612.5	2,755.0	2,878.5	3,068.5	3,458.0	3,705.0	4,028.0	4,322.5	4,617.0	4,940.0
AD250	0°	4,180.0	3,277.5	5,700.0	4,275.0	6,460.0	4,750.0	7,220.0	5,272.0	8,835.0	6,222.5	10,260.0	7,125.0	11,780.0	7,970.5
	45°	1,890.5	1,890.5	2,498.5	2,498.5	2,755.0	2,812.0	3,087.5	3,097.0	3,705.0	3,743.0	4,341.5	4,389.0	4,968.5	4,978.0
	90°	3,201.5	3,448.5	4,218.0	4,617.0	4,664.5	5,177.5	5,158.5	5,776.0	6,080.0	6,944.5	7,039.5	8,189.0	7,970.5	9,443.0
AD300	0°	7,286.5	5,719.0	10,089.0	7,552.5	11,495.0	8,493.0	12,825.0	9,215.0	15,998.0	10,345.5	18,895.5	11,523.5	21,793.0	13,015.0
	45°	3,363.0	3,192.0	4,455.5	4,284.5	5,054.0	4,921.0	5,624.0	5,434.0	6,792.5	6,555.0	8,008.5	7,752.0	9,196.0	8,901.5
	90°	5,320.0	5,985.0	7,125.0	8,170.0	7,980.0	9,281.5	8,854.0	10,421.5	10,526.0	12,796.5	12,217.0	15,276.0	13,832.0	17,806.8

※ 0° -Valve Closed / 90° -Valve open

## ► AS series Torque table

※Unit : Nm

Model	Spring type	Angle	Supply Air (Air to Open)							Spring to Close
			3Bar	4Bar	4.5Bar	5Bar	6Bar	7Bar	8Bar	
AS50	Weak	0°	12.9	23.8	28.6	32.3	35.5	46.1	51.8	10.2
		45°	6.0	10.9	13.2	15.8	20.4	25.0	29.5	6.9
		90°	9.4	18.7	21.8	27.8	35.2	44.4	48.7	15.2
	Middle*	0°	8.9	17.3	21.2	25.7	34.2	42.8	50.4	16.2
		45°	2.2	6.8	9.2	11.8	16.6	21.5	26.2	10.1
		90°	-	10.8	14.7	18.8	27.5	37.9	47.4	19.0
	Strong	0°	-	16.2	20.6	24.8	33.0	40.3	47.9	21.7
		45°	-	6.2	9.0	11.7	16.8	21.8	26.6	12.9
		90°	-	-	10.1	15.4	23.8	35.2	45.8	25.6
AS65	Weak	0°	35.2	53.2	61.8	68.4	81.7	100.7	118.8	29.5
		45°	17.1	28.5	34.2	40.9	52.3	62.7	72.2	15.6
		90°	28.5	47.0	58.0	68.4	91.2	96.9	136.8	29.2
	Middle*	0°	24.2	41.3	49.4	58.0	73.2	87.4	101.7	43.7
		45°	6.8	17.6	23.3	28.5	40.4	51.3	62.7	24.9
		90°	3.2	20.0	30.6	41.2	64.6	87.4	110.2	47.2
	Strong	0°	13.0	33.1	42.8	51.3	64.9	83.6	95.0	56.6
		45°	-	9.5	14.7	20.0	32.3	44.7	56.1	34.4
		90°	-	-	8.6	19.0	39.9	60.8	84.6	65.2
AS80	Weak	0°	71.3	104.5	123.5	142.5	175.8	209.0	242.3	47.5
		45°	28.5	52.3	61.8	71.3	95.0	114.0	137.8	33.3
		90°	47.5	95.0	128.3	152.0	213.8	256.5	285.0	61.8
	Middle*	0°	42.8	76.0	95.0	114.0	147.3	180.5	209.0	76.0
		45°	9.5	33.3	42.8	57.0	76.0	99.8	118.8	42.8
		90°	4.8	42.8	61.8	85.5	128.3	171.0	218.5	85.5
	Strong	0°	14.3	52.3	71.3	90.3	123.5	156.8	190.0	114.0
		45°	-	14.3	28.5	38.0	61.8	80.8	99.8	61.8
		90°	-	-	19.0	38.0	85.5	128.3	171.0	118.8
AS100	Weak	0°	109.3	161.5	190.0	223.3	289.8	351.5	413.3	95.0
		45°	47.5	90.3	104.5	128.3	166.3	209.0	247.0	61.8
		90°	61.8	133.0	180.5	204.3	285.0	361.0	437.0	109.3
	Middle*	0°	71.3	133.0	166.3	199.5	266.0	323.0	389.5	114.0
		45°	14.3	57.0	76.0	95.0	137.8	175.8	213.8	76.0
		90°	-	61.8	99.8	133.0	209.0	285.0	361.0	152.0
	Strong	0°	42.8	104.5	137.8	171.0	237.5	299.3	356.3	152.0
		45°	-	33.3	57.0	76.0	118.8	161.5	204.3	99.8
		90°	-	9.5	42.8	80.8	152.0	228.0	304.0	209.0
AS125	W	0°	332.5	465.5	527.3	584.3	703.0	807.5	931.0	109.3
		45°	180.5	261.3	299.3	342.0	418.0	498.8	589.0	57.0
		90°	313.5	489.3	584.3	679.3	769.5	964.3	1,149.5	118.8
	WM	0°	256.5	384.8	441.8	503.5	631.8	750.5	869.3	190.0
		45°	128.3	213.8	251.8	294.5	375.3	456.0	541.5	109.3
		90°	190.0	361.0	451.3	536.8	722.0	893.0	1,064.0	213.8
	WS	0°	190.0	323.0	384.8	446.5	574.8	693.5	807.5	261.3
		45°	66.5	152.0	190.0	232.8	313.5	394.3	475.0	152.0
		90°	76.0	218.5	289.8	361.0	494.0	641.3	826.5	256.5
	M	0°	185.3	318.3	384.8	451.3	574.8	693.5	812.3	285.0
		45°	80.8	161.5	204.3	247.0	327.8	408.5	489.0	166.3
		90°	76.0	237.5	318.3	408.5	584.3	722.0	893.0	318.3
	MS	0°	133.0	266.0	327.8	389.5	522.5	641.3	760.0	332.5
		45°	38.0	118.8	161.5	204.3	285.0	361.0	441.8	199.5
		90°	-	142.5	228.0	313.5	484.5	665.0	836.0	380.0
	S*	0°	80.8	213.8	280.3	346.8	470.3	589.0	712.5	408.5
		45°	-	85.5	128.3	166.3	247.0	327.8	408.5	237.5
		90°	-	61.8	133.0	213.8	384.8	560.5	712.5	446.5

※0° -Valve Closed / 90° -Valve open

\*Standard

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Positioner

※ Unit : Nm

Model	Spring type	Angle	Supply air (Air to)							Spring to Close
			3Bar	4Bar	4.5Bar	5Bar	6Bar	7Bar	8Bar	
AS140	W	0°	475.0	674.5	764.8	864.5	1,045.0	1,235.0	1,396.5	133.0
		45°	228.0	342.0	399.0	451.3	560.5	669.8	779.0	85.5
		90°	251.8	532.0	617.5	707.8	883.5	1,064.0	1,273.0	152.0
	WM	0°	365.8	570.0	674.5	774.3	959.5	1,159.0	1,320.5	256.5
		45°	161.5	275.5	323.0	380.0	489.3	598.5	707.8	156.8
		90°	223.3	418.0	532.0	636.5	855.0	1,078.3	1,339.5	294.5
	WS	0°	289.8	479.8	584.3	674.5	869.3	1,054.5	1,225.5	375.3
		45°	104.5	223.3	275.5	327.8	432.3	541.5	650.8	199.5
		90°	99.8	313.5	418.0	517.8	741.0	969.0	1,206.5	380.0
	M	0°	256.5	460.8	555.8	655.5	855.0	1,035.5	1,206.5	384.8
		45°	104.5	199.5	247.0	313.5	418.0	532.0	636.5	228.0
		90°	80.8	275.5	375.3	475.0	688.8	912.0	1,149.5	446.5
	MS	0°	190.0	380.0	475.0	570.0	769.5	959.5	1,140.0	479.8
		45°	38.0	152.0	209.0	266.0	361.0	465.5	579.5	275.5
		90°	-	161.5	266.0	380.0	570.0	788.5	1,026.0	522.5
	S*	0°	109.3	304.0	399.0	503.5	693.5	883.5	1,073.5	574.8
		45°	-	109.3	166.3	213.8	318.3	427.5	532.0	332.5
		90°	-	61.8	156.8	251.8	465.5	674.5	883.5	617.5
AS160	W	0°	627.0	921.5	1,064.0	1,206.5	1,491.5	1,757.5	2,042.5	313.5
		45°	299.3	475.0	560.5	646.0	817.0	997.5	1,178.0	194.8
		90°	460.8	826.5	1,016.5	1,178.0	1,596.0	2,071.0	2,242.0	384.8
	WM	0°	541.5	855.0	997.5	1,130.5	1,425.0	1,700.5	1,966.5	394.3
		45°	256.5	422.8	513.0	598.5	769.5	950.0	1,121.0	232.8
		90°	361.0	703.0	893.0	1,083.0	1,501.0	1,928.5	2,289.5	446.5
	WS	0°	389.5	684.0	826.5	983.3	1,263.5	1,548.5	1,833.5	612.8
		45°	137.8	304.0	389.5	479.8	650.8	821.8	964.3	356.3
		90°	42.8	365.8	513.0	674.5	1,002.3	1,353.8	1,767.0	636.5
	M	0°	446.5	750.5	902.5	1,045.0	1,330.0	1,615.0	1,900.0	503.5
		45°	204.3	380.0	465.5	551.0	731.5	902.5	1,068.8	289.8
		90°	247.0	608.0	769.5	950.0	1,349.0	1,795.5	2,090.0	536.8
	MS	0°	308.8	612.8	745.8	893.0	1,173.3	1,453.5	1,738.5	665.0
		45°	902.5	266.0	356.3	441.8	617.5	788.5	954.8	389.5
		90°	-	304.0	484.5	674.5	1,045.0	1,444.0	1,862.0	731.5
	S*	0°	156.8	470.3	622.3	769.5	1,059.3	1,339.5	1,615.0	888.3
		45°	-	166.3	247.0	332.5	508.3	679.3	850.3	498.8
		90°	-	66.5	218.5	380.0	731.5	1,121.0	1,520.0	940.5
AS185	W	0°	912.0	1,282.5	1,463.0	1,643.5	1,995.0	2,327.5	2,650.5	456.0
		45°	513.0	779.0	912.0	1,045.0	1,311.0	1,586.5	1,852.5	266.0
		90°	798.0	1,301.5	1,548.5	1,824.0	2,365.5	2,926.0	3,477.0	541.5
	WM	0°	745.8	1,140.0	1,311.0	1,491.5	1,824.0	2,142.3	2,484.6	726.8
		45°	356.3	603.3	741.0	869.3	1,140.0	1,406.0	1,705.1	441.8
		90°	441.8	912.0	1,144.8	1,396.5	1,900.0	2,441.5	2,747.7	864.5
	WS	0°	532.0	940.5	1,121.0	1,301.5	1,653.0	1,976.0	2,308.5	950.0
		45°	213.8	494.0	617.5	760.0	1,026.0	1,282.5	1,548.5	551.0
		90°	95.0	636.5	888.3	1,121.0	1,634.0	2,147.0	2,698.0	1,078.3
	M	0°	532.0	921.5	1,111.5	1,292.0	1,653.0	2,004.5	2,337.0	1,035.5
		45°	199.5	465.5	598.5	741.0	1,007.0	1,273.0	1,539.0	579.5
		90°	133.0	608.0	855.0	1,092.5	1,586.5	2,090.0	2,631.5	1,140.0
	MS	0°	332.5	731.5	931.0	1,111.5	1,501.0	1,843.0	2,185.0	1,273.0
		45°	57.0	332.5	465.5	598.5	874.0	1,121.0	1,396.5	712.5
		90°	-	304.0	522.5	769.5	1,254.0	1,767.0	2,299.0	1,387.0
	S*	0°	142.5	532.0	741.0	931.0	1,292.0	1,634.0	1,976.0	1,548.5
		45°	-	180.5	304.0	437.0	703.0	969.0	1,235.0	874.0
		90°	-	-	218.5	456.0	931.0	1,415.5	1,928.5	1,681.5

※ 0° -Valve Closed / 90° -Valve open

\*Standard

※Unit : Nm

Model	Spring type	Angle	Air (to Open)							Spring to Close
			3Bar	4Bar	4.5Bar	5Bar	6Bar	7Bar	8Bar	
AS210	W	0 °	1,577.0	2,156.5	2,460.5	2,736.0	3,287.0	3,857.0	4,389.0	418.0
		45 °	779.0	1,149.5	1,330.0	1,510.5	1,881.0	2,242.0	2,603.0	247.0
		90 °	1,197.0	1,824.0	2,156.5	2,470.0	3,078.0	3,705.0	4,332.0	475.0
	WM	0 °	1,140.0	1,795.5	2,090.0	2,384.5	3,002.0	3,543.5	4,085.0	807.5
		45 °	513.0	883.5	1,054.5	1,254.0	1,615.0	1,976.0	2,337.0	484.5
		90 °	693.5	1,311.0	1,624.5	1,919.0	2,546.0	3,154.0	3,800.0	940.5
	WS	0 °	969.0	1,643.5	1,928.5	2,251.5	2,850.0	3,458.0	3,990.0	1,054.5
		45 °	380.0	760.0	950.0	1,140.0	1,510.5	1,881.0	2,242.0	627.0
		90 °	380.0	1,054.5	1,330.0	1,672.0	2,280.0	2,907.0	3,515.0	1,206.5
	M	0 °	926.3	1,491.5	1,833.5	2,109.0	2,641.0	3,163.5	3,648.0	1,206.5
		45 °	351.5	717.3	921.5	1,097.3	1,444.0	1,805.0	2,147.0	674.5
		90 °	313.5	978.5	1,349.0	1,719.5	2,261.0	2,973.5	3,163.5	1,239.8
	MS	0 °	598.5	1,235.0	1,586.5	1,928.5	2,536.5	3,135.0	3,705.0	1,472.5
		45 °	114.0	484.5	674.5	864.5	1,225.5	1,586.5	1,957.0	874.0
		90 °	-	503.5	798.0	1,121.0	1,748.0	2,356.0	2,983.0	1,719.5
	S*	0 °	389.5	1,092.5	1,415.5	1,738.5	2,375.0	2,945.0	3,515.0	1,681.5
		45 °	-	351.5	541.5	722.0	1,092.5	1,463.0	1,833.5	1,035.5
		90 °	-	228.0	522.5	855.0	1,472.5	2,099.5	2,707.5	1,947.5
AS250	W	0 °	2,631.5	3,686.0	4,180.0	4,655.0	5,624.0	6,555.0	7,457.5	731.5
		45 °	1,425.0	2,090.0	2,413.0	2,726.5	3,420.0	4,047.0	4,721.5	418.0
		90 °	2,299.0	3,515.0	4,056.5	4,655.0	5,814.0	6,982.5	8,217.5	874.0
	WM	0 °	2,118.5	3,249.0	3,781.0	4,303.5	5,320.0	6,270.0	7,172.5	1,434.5
		45 °	1,064.0	1,729.0	2,052.0	2,375.0	3,011.5	3,667.0	4,313.0	826.5
		90 °	1,453.5	2,641.0	3,211.0	3,800.0	4,987.5	6,222.5	7,429.0	1,596.0
	WS	0 °	1,757.5	2,812.0	3,306.0	3,800.0	4,816.5	5,738.0	6,621.5	1,862.0
		45 °	855.0	1,491.5	1,805.0	2,109.0	2,783.5	3,420.0	4,094.5	1,054.5
		90 °	921.5	2,033.0	2,707.5	3,220.5	4,275.0	5,586.0	6,593.0	2,080.5
	M	0 °	1,453.5	2,555.5	3,097.0	3,610.0	4,655.0	5,633.5	6,536.0	2,213.5
		45 °	636.5	1,282.5	1,605.5	1,947.5	2,593.5	3,230.0	3,876.0	1,254.0
		90 °	608.0	1,767.0	2,318.0	2,945.0	4,085.0	5,253.5	6,422.0	2,432.0
	MS	0 °	1,092.5	2,156.5	2,669.5	3,163.5	4,227.5	5,187.0	6,061.0	2,660.0
		45 °	399.0	1,045.0	1,358.5	1,691.0	2,327.5	2,992.5	3,638.5	1,482.0
		90 °	19.0	1,235.0	1,757.5	2,346.5	3,467.5	4,607.5	5,795.0	2,878.5
	S*	0 °	731.5	1,900.0	2,441.5	2,945.0	3,942.5	4,864.0	5,776.0	3,277.5
		45 °	123.5	779.0	1,092.5	1,415.5	2,071.0	2,726.5	3,363.0	1,738.5
		90 °	-	665.0	1,197.0	1,748.0	2,888.0	4,028.0	5,168.0	3,315.5
AS300	W	0 °	4,626.5	6,460.0	7,267.5	7,923.0	9,120.0	10,697.0	12,245.5	1,425.0
		45 °	2,460.5	3,505.5	4,218.0	4,569.5	5,624.0	6,792.5	7,951.5	817.0
		90 °	4,322.5	6,507.5	7,619.0	8,692.5	10,963.0	13,471.0	14,373.5	1,472.5
	WM	0 °	3,515.0	5,510.0	6,460.0	7,362.5	9,072.5	10,564.0	11,713.5	2,726.5
		45 °	1,520.0	2,717.0	3,344.0	3,942.5	5,130.0	6,336.5	7,552.5	1,900.0
		90 °	2,147.0	4,284.5	5,301.0	6,431.5	8,645.0	10,849.0	13,271.5	3,211.0
	WS	0 °	2,888.0	4,854.5	5,633.5	6,488.5	8,122.5	9,956.0	11,381.0	3,439.0
		45 °	1,130.5	2,242.0	2,821.5	3,429.5	4,427.0	5,823.5	6,640.5	2,052.0
		90 °	1,206.5	3,448.5	4,465.0	5,880.5	7,856.5	9,946.5	12,226.5	3,971.0
	M	0 °	2,147.0	4,075.5	4,987.5	5,890.0	7,524.0	8,930.0	10,184.0	4,408.0
		45 °	617.5	1,776.5	2,346.5	2,916.5	3,961.5	4,997.0	6,061.0	2,546.0
		90 °	190.0	2,147.0	3,268.0	4,332.0	6,270.0	8,578.5	10,640.0	4,949.5
	MS	0 °	1,482.0	3,458.0	4,484.0	5,462.5	7,134.5	8,578.5	9,718.5	5,130.0
		45 °	161.5	1,282.5	1,881.0	2,422.5	3,467.5	4,550.5	5,605.0	3,002.0
		90 °	-	1,187.5	2,242.0	3,230.0	5,329.5	7,334.0	9,690.0	5,709.5
	S*	0 °	807.5	2,650.5	3,638.5	4,588.5	6,403.0	7,942.0	9,139.0	6,099.0
		45 °	-	826.5	1,425.0	1,966.5	3,021.0	4,085.0	5,111.0	3,505.5
		90 °	-	190.0	1,187.5	2,204.0	4,199.0	6,365.0	8,331.5	6,564.5

※0 ° -Valve Closed / 90 ° -Valve open

\*Standard

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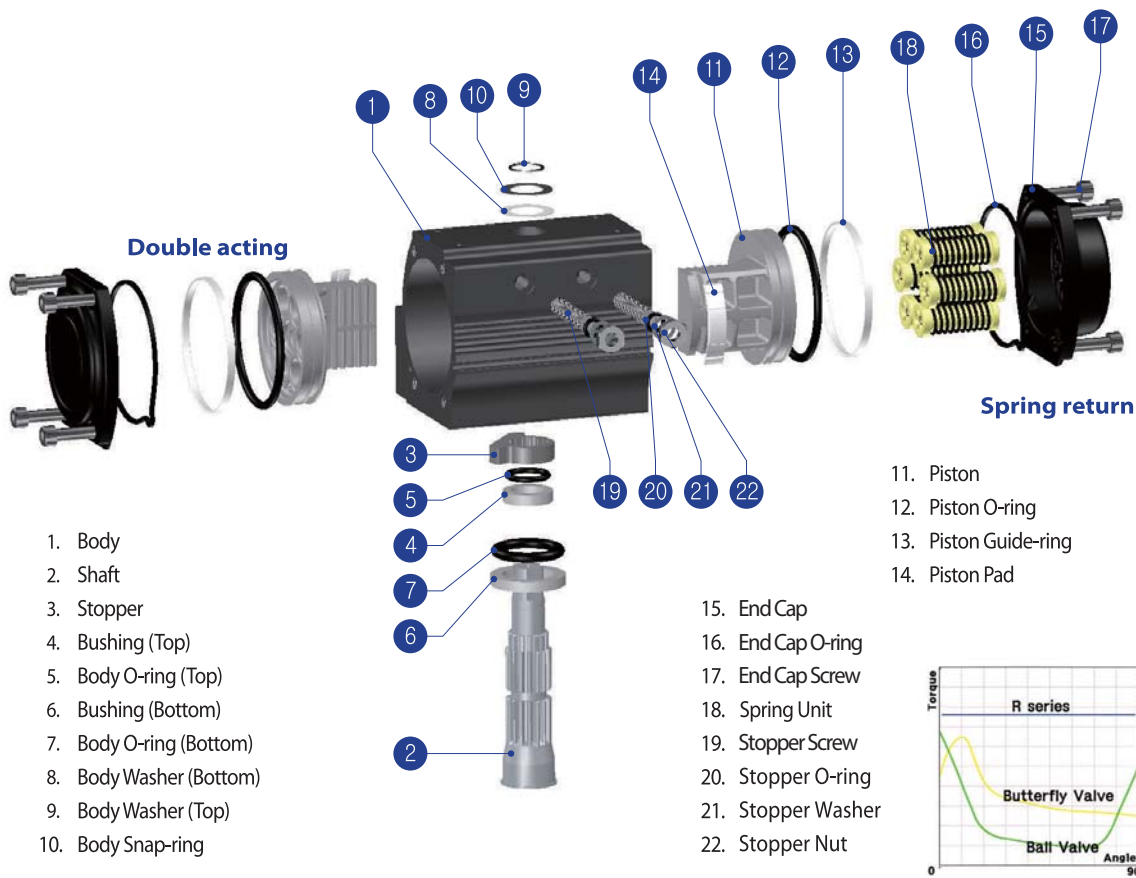
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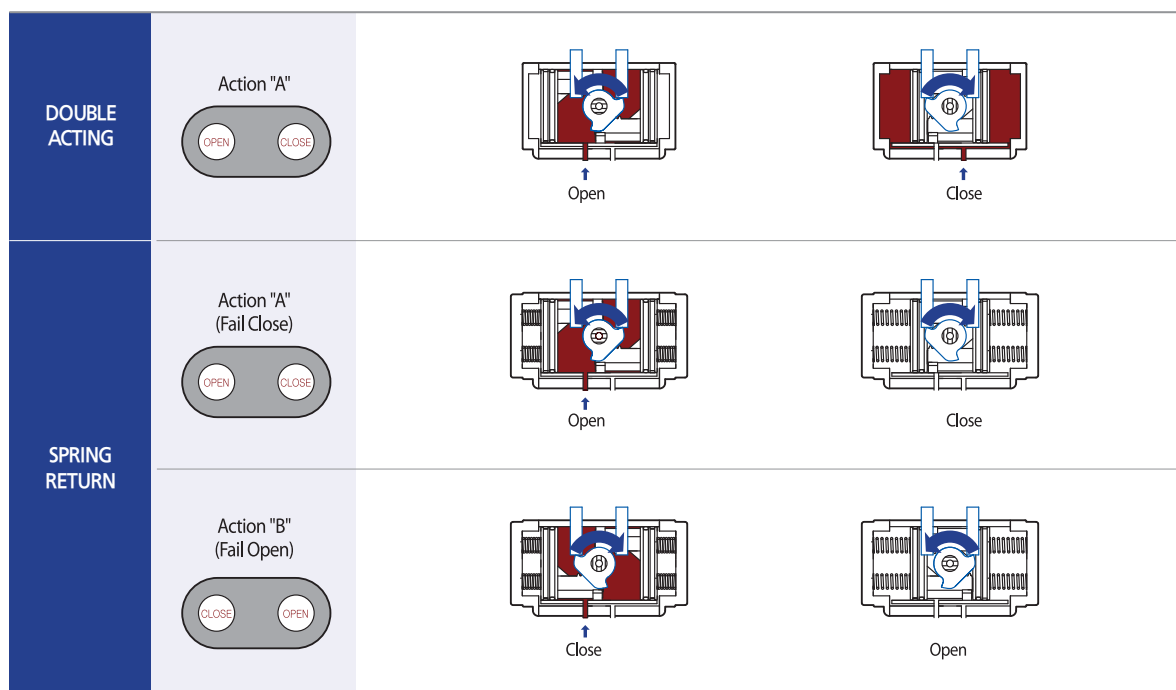
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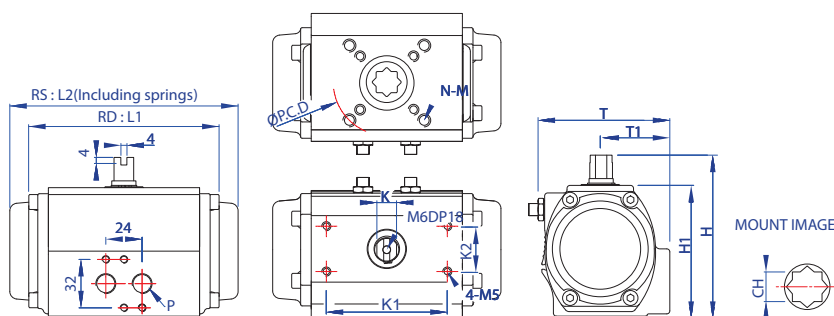
Valve Size		Double acting		Spring return	
		Ball valve	Butterly valve	Ball valve	Butterly valve
1/2"	15A	RD32 (1piece)	RD50	RS40	
3/4"	20A	RD40 (1piece)		RS50	
1"	25A		RD65	RS65	
1-1/4"	32A			RS80	
1-1/2"	40A		RD80	RS90	RS50
2"	50A			RD65	RS100
2-1/2"	65A		RD90		RS115
3"	80A		RD100 / RD115	RS125	RS90
4"	100A			RD115 / RD125	RS140
5"	125A		RD140	RS160 / RS185	RS115
6"	150A		RD160	RS185 / RS210	RS125
8"	200A		RD185	RD125	RS140
10"	250A		RD210	RD140	RS160
12"	300A			RD160	RS185
14"	350A			RD185	RS210
16"	400A			RD210	

•Based on 10K/#150

•The above data is for reference only; the actual assembly may be different depending on valve material, pressure, structure, fluid and operational environment.

•The data is not legally effective and therefore should not be used as legal ground.

## ► Dimension table



P		
R32, R40	PT1/8	
R50~R210	PT1/4	
	K1	K2
R32	25,5	25,5
R40	50	25
R50~R160	80	30
R210	130	30

※Unit:mm

MODEL	ISO	P.C.D.(∅)	N-G	K	RD L1	RS L2	T	T1	H	H1	CH	Stem depth	RD Wt(Kg)	RS Wt(Kg)
@RD32	F03	36	4-M5	7	66	-	45	25	55	45	9*9	9	0.3	-
@R40	F03/F05	36/50	4-M5/M6	9	97	97	63	32	75	55	9*9	9	0.5	0.6
	#F04	#42	#4-M5											
R50	F03/F05/F07	36/50/70	4-M5/M6/M8	9	119	133	75	40	90	70	11*11	13	1.0	1.1
	#F04	#42	#4-M5											
R65	F05/F07	50/70	4-M6/M8	13	131	154	89	46	106.5	86.5	14*14	16	1.4	1.5
	#F07	#70	#4-M8											
R80	F07	70	4-M8	19	189	220	101	49.5	126	106	17*17	19	2.9	3.3
R90	F07	70	4-M8	19	188	223	104	54.5	136	116	17*17	19	3.4	3.8
R100	F07/F10	70/102	4-M8/M10	19	229	256	132	61.5	148	128	22*22	26	4.7	5.4
											#17*17	19		
R115	F07/F10	70/102	4-M8/M10	19	264	302	137	67.5	163	143	22*22	26	6.7	5.4
R125	F07/F10	70/102	4-M8/M10	19	299	330	151	71.5	174	154	22*22	26	8.6	9.9
R140	F10/F12	102/125	4-M10/M12	25	332	389	164	77	192	172	27*27	30	12.4	14.5
											#22*22	26		
R160	F10/F12	102/125	4-M10/M12	24	364	416	188	103.5	216	196	27*27	30	16.9	19.5
R185	F10/F12	102/125	4-M10/M12	24	434	465	217	103	244	224	36*36	30	24.2	29.0
R210	F14	140	4-M12	36	444	527	231	115	284	254	36*36	30	32.3	37.9

#Option

## Contents

## ► RD series Torque table

※ Unit : Nm

MODEL	Supply air						
	3Bar	4Bar	4.5Bar	5Bar	6Bar	7Bar	8Bar
RD32	2.4	3.1	3.5	3.9	4.8	5.7	6.6
RD40	5.5	7.4	8.4	9.2	11.1	13.0	14.8
RD50	9.4	12.5	14.3	15.9	19.1	22.5	25.8
RD65	18.3	24.7	27.8	30.8	36.8	42.9	49.2
RD80	44.5	58.9	66.5	74.4	89.3	104.3	117.8
RD90	57.2	76.2	85.7	95.2	114.2	133.2	152.2
RD100	79.5	105.5	118.8	132.1	158.7	185.3	211.9
RD115	123.5	166.3	187.2	209.0	251.8	294.5	337.3
RD125	161.5	218.5	247.0	270.8	327.8	384.8	437.0
RD140	237.5	318.3	361.0	399.0	479.8	560.5	641.3
RD160	327.8	441.8	494.0	551.0	669.8	779.0	893.0
RD185	475.0	641.3	722.0	802.8	964.3	1,125.8	1,287.3
RD210	679.3	912.0	1,030.8	1,144.8	1,382.3	1,615.0	1,847.8

※ 0° -Valve Closed / 90° -Valve open

## ► RS series Torque table

※Unit : Nm

Model	Spring unit	Supply air (to Open)															
		3Bar		4Bar		4.5Bar		5Bar		6Bar		7Bar		8Bar		Spring to Close	
		0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	90°	0°
RS40	WM	3.2	1.5	5.0	3.1	5.0	3.8	6.0	4.6	6.9	5.9	8.8	7.1	10.7	8.2	2.4	1.6
	WS	2.7	0.7	4.6	1.7	5.4	2.3	6.4	2.9	8.2	4.1	10.1	5.2	12.0	6.3	3.0	2.1
	M	2.6	0.8	4.6	2.4	5.4	3.2	6.3	4.1	8.1	5.9	10.0	7.7	11.9	9.3	4.1	2.8
	MS	1.9	-	3.7	1.0	4.6	1.8	5.4	2.5	7.3	4.2	9.1	5.6	11.0	6.7	4.9	3.0
	S*	1.0	-	2.9	0.5	3.8	1.2	4.8	2.1	6.7	3.8	8.6	5.1	10.5	6.4	5.9	3.9
RS50	4	7.4	6.1	10.8	9.5	12.4	11.1	14.2	12.8	17.5	16.2	20.9	19.6	24.1	22.9	3.6	2.3
	5	6.7	5.0	10.2	8.5	11.9	10.2	13.4	11.8	16.8	15.3	20.1	18.5	23.6	22.0	4.4	2.8
	6	6.3	4.0	9.6	7.5	11.3	9.0	12.8	10.7	16.3	14.3	19.6	17.6	22.9	20.9	5.2	3.3
	7	5.6	3.2	8.9	6.6	10.6	8.4	12.3	10.0	15.6	13.4	19.0	16.8	22.4	20.2	6.3	3.8
	8*	4.1	1.2	7.4	4.4	9.0	6.1	10.7	7.6	14.2	11.1	17.3	14.5	20.8	18.0	8.1	5.2
	9	3.6	-	6.9	3.4	8.6	5.2	10.3	6.9	13.6	10.2	16.9	13.6	20.3	17.0	9.1	6.0
	10	2.9	-	6.1	2.7	7.8	4.3	9.5	5.9	12.8	9.3	16.2	12.6	19.5	16.1	10.1	6.5
	11	2.3	-	5.6	1.5	7.3	3.1	8.9	4.8	12.4	8.2	15.7	11.5	19.0	14.9	11.0	7.0
RS65	4	7.4	6.1	13.7	10.5	19.7	16.8	22.8	20.0	26.0	23.1	32.2	29.5	38.4	35.5	6.7	4.0
	5	6.7	5.0	12.4	9.0	18.7	15.3	21.9	18.4	24.8	21.7	31.1	27.8	37.2	34.3	8.5	5.2
	6	6.3	4.0	11.0	6.9	17.1	13.3	20.1	16.4	23.3	19.6	29.5	26.0	35.7	32.0	9.8	6.5
	7	5.6	3.2	10.0	5.2	16.2	11.4	19.3	14.4	22.2	17.4	28.4	23.6	35.0	29.9	11.4	7.1
	8*	4.1	1.2	8.7	3.6	14.7	9.5	17.9	12.5	21.1	15.7	27.2	22.0	33.3	28.1	13.7	8.4
	9	3.6	-	7.6	1.3	14	7.5	17.1	10.7	20	13.8	26.3	20.0	32.4	26.4	15.2	9.7
	10	2.9	-	6.1	-	12.3	5.3	15.4	8.6	18.5	11.8	24.7	18.1	30.4	24.3	17.4	11.0
	11	2.3	-	5.4	-	11.4	3.8	14.4	7.6	17.6	10.4	23.8	16.7	30.0	22.8	18.6	12.2
RS80	4	32.7	25.1	47.9	40.4	55.1	47.2	62.5	55.1	77.8	70.5	92.6	85.3	107.4	100.1	16.3	10.6
	5	29.5	19.9	44.7	35.0	52.3	41.9	59.8	49.6	74.8	64.8	89.3	79.8	104.2	94.7	20.9	13.1
	6	26.6	15.2	41.3	30.1	49.4	37.1	56.6	44.9	71.4	59.9	86.2	74.9	101.5	89.9	25.3	16.2
	7	23.7	10.2	38.4	25.7	45.8	32.1	53.1	39.9	68.2	55.1	83.1	69.8	98.0	84.9	29.5	18.6
	8*	21.1	6.1	35.3	21.0	42.9	29.1	50.5	35.7	65.6	51.3	80.8	66.4	95.7	80.5	33.7	21.7
	9	17.6	-	32.4	15.7	39.9	23.8	47.4	30.4	62.4	45.3	77.7	60.1	92.5	75.1	38.3	24.8
	10	14.3	-	29.5	11.0	37.1	19	44.3	25.7	59.8	40.4	74.5	55.5	89.2	70.0	43.7	28.2
	11	11.4	-	26.2	5.7	33.4	12.9	40.5	20.4	56.1	35.3	70.8	49.9	85.8	64.4	47.7	30.3
12	9.1	-	23.7	1.0	32.2	8.6	38.5	16.2	53.9	30.7	68.9	44.8	83.6	60.1	51.6	33.5	

※0° -Valve Closed / 90° -Valve open

\*Standard

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Positioner

Model	Spring unit	Supply Air																
		3Bar		4Bar		4.5Bar		5Bar		6Bar		7Bar		8Bar		Spring to Close		
		0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	90°	0°	
RS90	4	41.8	30.9	61.3	49.9	70.3	59.4	79.8	69.8	98.8	88.8	117.8	107.8	136.8	126.8	22.2	12.8	
	5	38.7	25.0	58.3	44.3	67.5	54.0	77.0	63.7	96.0	82.9	115.0	102.3	134.0	120.9	26.4	16.3	
	6	34.9	19.0	54.7	38.0	64.2	47.5	73.7	57.0	92.7	77.0	111.7	96.0	130.7	115.0	33.9	20.2	
	7	31.2	12.7	50.5	32.3	60.0	41.8	69.8	51.3	88.8	70.8	107.8	89.8	126.8	108.8	38.4	23.4	
	8*	27.7	6.7	47.3	25.7	56.6	35.2	65.8	44.7	85.1	63.7	104.1	82.7	123.1	101.7	43.9	27.2	
	9	23.1	-	42.5	18.8	51.6	28.9	61.4	38.0	80.8	57.4	100.0	77.0	119.0	96.0	49.8	30.7	
	10	19.2	-	38.0	12.7	47.5	21.9	57.0	31.4	76.0	50.8	95.0	69.8	114.0	89.0	56.5	34.5	
	11	16.9	-	35.0	6.5	44.4	16.2	54.0	25.7	73.2	44.7	92.2	63.7	111.2	82.7	61.8	37.8	
	12	12.8	-	31.5	-	41.5	9.5	50.0	19.2	69.4	38.0	88.6	57.0	107.4	76.5	67.5	40.7	
	RS100	4	57.7	41.1	84.3	67.8	97.7	81.3	106.4	95.3	133.0	121.6	159.6	148.2	186.2	174.8	33.1	20.7
		5	51.5	31.2	78.9	58.3	93.6	71.7	104.8	85.2	131.1	112.1	157.7	138.7	184.3	165.3	41.8	25.5
		6	45.8	22.1	72.7	48.5	85.5	62.2	98.6	75.5	125.4	101.7	152.0	128.3	178.6	154.9	50.8	31.2
7		40.6	12.4	67.0	38.6	80.2	53.6	93.5	66.0	119.7	92.2	146.3	118.8	172.9	145.4	59.3	36.2	
8*		34.9	4.8	60.8	29.6	74.1	43.7	86.7	56.1	113.1	81.9	139.7	108.3	166.3	135.9	67.6	40.9	
9		30.6	-	57.0	20.9	70.3	33.7	83.1	46.6	109.3	74.1	135.9	100.2	162.5	126.4	76.4	45.6	
10		25.2	-	52.7	11.8	66.9	24.1	79.3	36.9	105.5	64.1	132.1	90.0	158.7	116.9	87.2	50.4	
11		20.5	-	46.4	1.9	59.5	14.3	72.4	28.0	98.6	53.8	125.4	79.3	152.0	105.5	93.8	55.7	
12		13.8	-	40.3	-	52.9	4.8	65.6	19.0	92.6	45.8	119.2	71.2	145.8	97.9	102.0	60.6	
RS115		4	95.0	71.3	137.8	114.0	161.5	137.8	180.5	161.5	223.3	204.3	266.0	247.0	308.8	289.8	42.8	23.8
		5	85.5	61.8	128.3	104.5	147.3	123.5	171.0	147.3	213.8	190.0	256.5	232.8	299.3	275.5	52.3	33.3
		6	76.0	52.3	118.8	90.3	142.5	114.0	161.5	133.0	204.3	175.8	247.0	218.5	289.8	261.3	61.8	38.0
	7	66.5	33.3	114.0	76.0	133.0	99.8	156.8	118.8	194.8	161.5	237.5	204.3	285.0	247.0	76.0	47.5	
	8*	61.8	23.8	104.5	66.5	128.3	85.5	147.3	109.3	190.0	152.0	232.8	190.0	275.5	237.5	85.5	52.3	
	9	52.3	9.5	95.0	52.3	118.8	71.3	137.8	95.0	185.3	142.5	228.0	180.5	270.8	223.3	99.8	61.8	
	10	42.8	-	85.5	42.8	109.3	61.8	128.3	80.8	175.8	123.5	218.5	166.3	256.5	209.0	114.0	66.5	
	11	38.0	-	80.8	28.5	104.5	47.5	123.5	71.3	166.3	114.0	209.0	156.8	251.8	199.5	123.5	76.0	
	12	33.3	-	71.3	14.3	95.0	38.0	114.0	57.0	156.8	99.8	199.5	142.5	242.3	185.3	133.0	80.8	
	RS125	4	114.0	95.0	171.0	152.0	194.8	180.5	223.3	209.0	275.5	261.3	327.8	318.3	384.8	375.3	57.0	33.3
		5	104.5	80.8	161.5	133.0	190.0	161.5	213.8	190.0	270.8	247.0	327.8	304.0	380.0	356.3	71.3	42.8
		6	95.0	61.8	152.0	118.8	175.8	147.3	204.3	171.0	256.5	228.0	313.5	285.0	370.5	337.3	85.5	52.3
7		85.5	47.5	142.5	99.8	166.3	128.3	194.8	156.8	247.0	213.8	304.0	266.0	356.3	323	99.8	61.8	
8*		76.0	28.5	128.3	80.8	156.8	109.3	180.5	137.8	237.5	194.8	289.8	247.0	346.8	304.0	114.0	71.3	
9		66.5	9.5	118.8	66.5	147.3	95.0	175.8	123.5	228.0	175.8	280.3	232.8	332.5	285.0	133.0	85.5	
10		52.3	-	109.3	47.5	137.8	76.0	161.5	104.5	218.5	161.5	270.8	213.8	323.0	270.8	147.3	95.0	
11		42.8	-	99.8	33.3	128.3	61.8	152.0	85.5	209.0	142.5	261.3	199.5	313.5	251.8	161.5	104.5	
12		33.3	-	90.3	19.0	114.0	42.8	142.5	71.3	194.8	123.5	251.8	180.5	304.0	232.8	175.8	114.0	

※ 0° -Valve Closed / 90° -Valve open

※Unit : Nm

Model	Spring unit	Supply Air																
		3Bar		4Bar		4.5Bar		5Bar		6Bar		7Bar		8Bar		Spring to Close		
		0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	90°	0°	
RS140	4	166.3	137.8	247.0	218.5	285.0	261.3	327.8	299.3	408.5	384.8	489.3	465.5	570.0	546.3	760.0	52.3	
	5	156.8	109.3	237.5	194.8	280.3	232.8	318.3	275.5	399.0	361.0	479.8	441.8	560.5	522.5	104.5	61.8	
	6	142.5	90.3	223.3	175.8	261.3	213.8	304.0	256.5	384.8	337.3	465.5	418.0	546.3	498.8	123.5	71.3	
	7	128.3	66.5	209.0	147.3	247.0	190.0	289.8	228.0	370.5	313.5	451.3	394.3	532.0	470.3	147.3	90.3	
	8*	114.0	42.8	194.8	123.5	237.5	166.3	275.5	204.3	356.3	289.8	437.0	370.5	517.8	451.3	175.8	104.5	
	9	95.0	14.3	175.8	99.8	218.5	142.5	256.5	180.5	337.3	266.0	418.0	346.8	498.8	427.5	194.8	118.8	
	10	85.5	—	166.3	76.0	204.3	118.8	242.3	156.8	323.0	242.3	408.5	323.0	484.5	403.8	218.5	137.8	
	11	66.5	—	147.3	47.5	190.0	90.3	228.0	133.0	308.8	213.8	389.5	299.3	470.3	380.0	242.3	152.0	
	12	52.3	—	133.0	28.5	175.8	66.5	213.8	109.3	294.5	194.8	375.3	275.5	456.0	356.3	266.0	166.3	
	RS160	4	223.3	180.5	337.3	289.8	394.3	346.8	451.3	403.8	565.3	513.0	679.3	622.3	793.3	731.5	114.0	80.8
		5	213.8	152.0	327.8	261.3	384.8	318.3	441.8	375.3	555.8	484.5	669.8	593.8	783.8	703.0	142.5	95.0
		6	190.0	118.8	304.0	237.5	361.0	294.5	418.0	346.8	532.0	465.5	646.0	579.5	760.0	693.5	175.8	118.8
7		166.3	85.5	285.0	194.8	337.3	251.8	394.3	334.4	513.0	422.8	622.3	541.5	736.3	660.3	204.3	137.8	
8*		147.3	52.3	261.3	166.3	318.3	218.5	375.3	280.3	489.3	394.3	603.3	508.3	712.5	622.3	242.3	161.5	
9		123.5	14.3	242.3	128.3	299.3	185.3	356.3	242.3	470.3	356.3	584.3	470.3	698.3	584.3	275.5	185.3	
10		104.5	—	218.5	99.8	270.8	152.0	327.8	209.0	446.5	323.0	560.5	437.0	669.8	551.0	313.5	204.3	
11		80.8	—	194.8	61.8	251.8	114.0	308.8	175.8	422.8	289.8	532.0	403.8	650.8	517.8	337.3	228.0	
12		66.5	—	175.8	28.5	232.8	85.5	289.8	142.5	403.8	256.5	513.0	365.8	627.0	479.8	365.8	247.0	
RS185		4	342.0	270.8	503.5	432.3	584.3	513.0	665.0	593.8	826.5	755.3	988.0	912.0	1,144.8	1,073.5	180.5	118.8
		5	308.8	218.5	470.3	384.8	551.0	460.8	627.0	546.3	788.5	707.8	950.0	869.3	1,111.5	1,026.0	228.0	152.0
		6	270.8	166.3	437.0	332.5	517.8	408.5	598.5	489.3	760.0	650.8	916.8	812.3	1,078.3	969.0	280.3	190.0
	7	242.3	114.0	403.8	285.0	484.5	361.0	565.3	441.8	726.8	598.5	883.5	760.0	1,045.0	921.5	318.3	218.5	
	8*	204.3	66.5	365.8	228.0	446.5	304.0	532.0	384.8	693.5	546.3	850.3	703.0	1,011.8	864.5	370.5	251.8	
	9	171.0	9.5	337.3	171.0	418.0	251.8	494.0	332.5	660.3	494.0	821.8	660.3	978.5	817.0	422.8	285.0	
	10	137.8	—	304.0	118.8	384.8	199.5	460.8	280.3	627.0	446.5	788.5	608.0	945.3	769.5	465.5	318.3	
	11	104.5	—	266.0	61.8	346.8	152.0	427.5	232.8	593.8	394.3	750.5	555.8	912.0	712.5	508.3	346.8	
	12	71.3	—	232.8	23.8	313.5	99.8	394.3	180.5	555.8	342.0	717.3	498.8	874.0	655.5	560.5	380.0	
	RS210	4	503.5	408.5	736.3	646.0	850.3	760.0	959.5	878.8	1,201.8	1,111.5	1,434.5	1,339.5	1,667.3	1,572.3	232.8	156.8
		5	465.5	346.8	698.3	589.0	812.3	698.3	931.0	817.0	1,163.8	1,054.5	1,396.5	1,282.5	1,629.3	1,857.3	299.3	199.5
		6	422.8	280.3	660.3	517.8	774.3	631.8	888.3	750.5	1,125.8	988.0	1,358.5	1,235.0	1,586.5	1,458.3	361.0	242.3
7		375.3	213.8	612.8	446.5	726.8	565.3	845.5	684.0	1,078.3	916.8	1,311.0	1,149.5	1,539.0	1,391.8	422.8	285.0	
8*		332.5	152.0	570.0	380.0	684.0	498.8	802.8	617.5	1,035.5	850.3	1,263.5	1,078.3	1,496.3	1,311.0	489.3	327.8	
9		285.0	76.0	517.8	313.5	636.5	432.3	750.5	546.3	988.0	779.0	1,216.0	1,016.5	1,448.8	1,244.5	555.8	375.3	
10		232.8	9.5	465.5	242.3	584.3	356.3	703.0	475.0	935.8	712.5	1,168.5	945.3	1,401.3	1,173.3	622.3	427.5	
11		185.3	—	422.8	175.8	532.0	294.5	655.5	408.5	888.3	646.0	1,121.0	878.8	1,353.8	1,111.5	684.0	465.5	
12		147.3	—	384.8	114.0	498.8	237.5	612.8	342.0	850.3	574.8	1,083.0	812.3	1,315.8	1,040.3	745.8	503.5	

※0° -Valve Closed / 90° -Valve open

\*Standard

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## ► Various option

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### ● Indicator


A	B	C	D
			
<ul style="list-style-type: none"> <li>· It is fixed with screws.</li> </ul>	<p>Standard indicator</p> <ul style="list-style-type: none"> <li>· It is possible to assemble the switch box in an indicator-mounted state.</li> </ul>	<ul style="list-style-type: none"> <li>· To AR50~AR160 can be used with 1 size.</li> <li>· It is easy to recognize since size is big.</li> </ul>	<ul style="list-style-type: none"> <li>· There is no discoloration with plastic 4 piece indicator system.</li> <li>*For R40/AR50~AR125</li> </ul>

### ● Epoxy coated actuator




- Epoxy coated after hard anodized aluminum body.
- It is used for Chemical pipe line.

### ● Stainless steel actuator

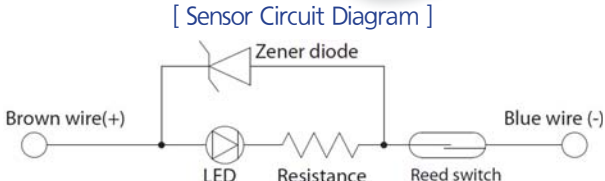


- Body and end cap's material are stainless steel.
- Model range : RD65, RD90, RD125, RS65, RS90, RS125

### ● Side sensor



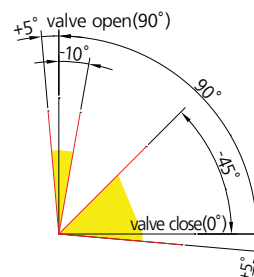
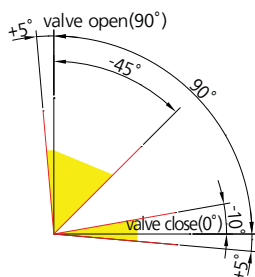
[ Sensor Circuit Diagram ]



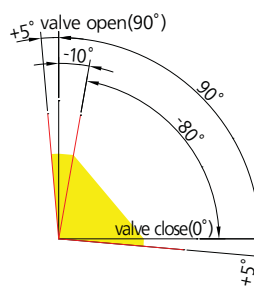
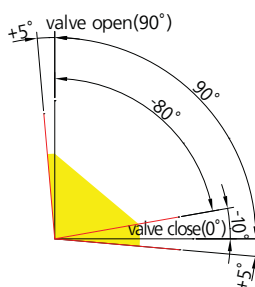
Sensor Specification	
Sensor	D-93K (KCC)
Application	Relay, PLC
Voltage	DC24V      AC110V
Current range	5~40mA      5~20mA
Contact protection circuit	None
Internal voltage drop	≤2.7V
Indicator lamp	Red LED
Wire length	1m(standard), 3m, 5m

● Stopper

[ Center stopper ]



[ End cap stopper ]

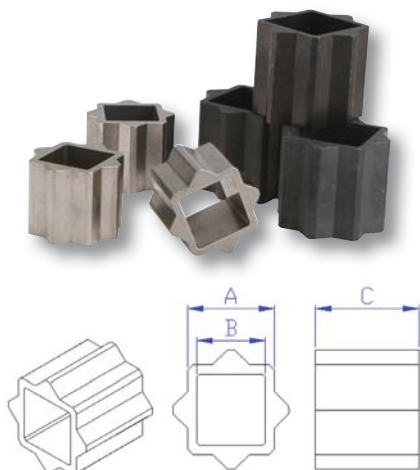


● Port pad



- Change Port size easily.
- Assemble other size NAUMUR solenoid valve with long screws.
- Add vent hole for quick response time in case of spring return.

● Adapter



Double square			Single square		
A	B	C	A	B	C
11	9	12	11	9	10
14	9	15	14	9	15
14	11	15, 18	14	11	16, 15
17	14	18	17	11	17
17	11	18	17	14	17
22	14	24	22	17	22
22	17	24	27	22	27
27	17	27			
27	22	27			
36	27	38			

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## ● Side Hand Wheel

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Various option

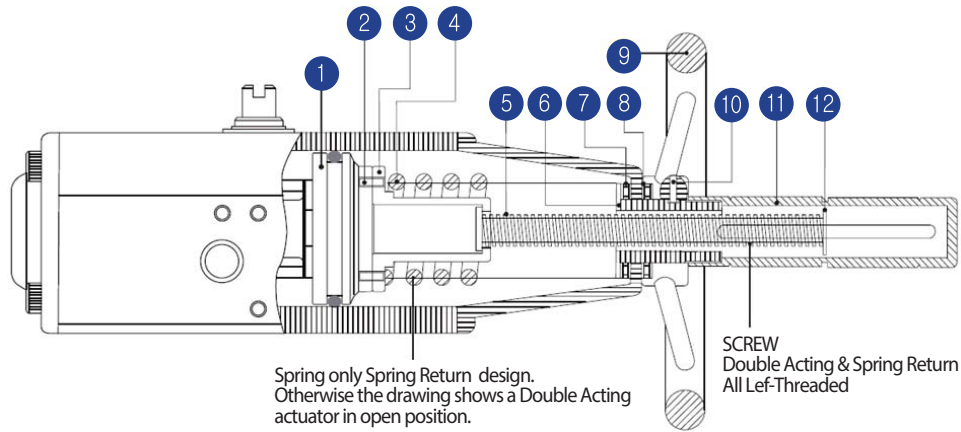
Limit switch  
box

Positioner



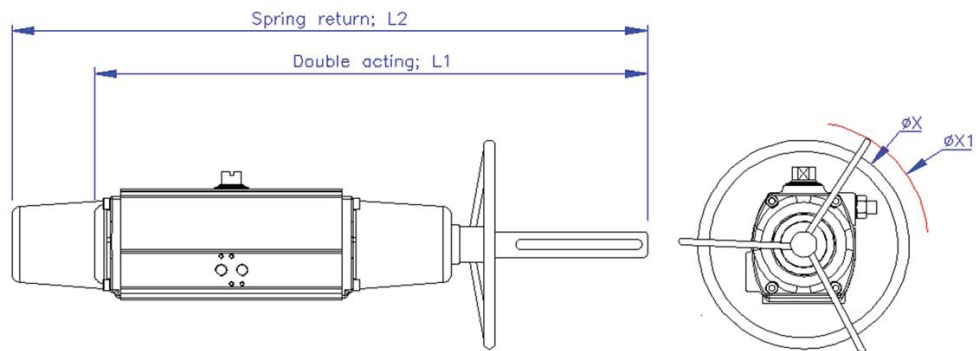
· Can open or close valves by manual when air fails.

### · Part list



No.	1	2	3	4	5	6	7	8	9	10	11	12
Part	Piston	Screw Bolt	Spring Cap	Spring	Screw Stem	Stem Nuts	Needle Bearing	Plate	Handwheel	Set Screw	Protecting Tube	Indicator

### · Dimension table

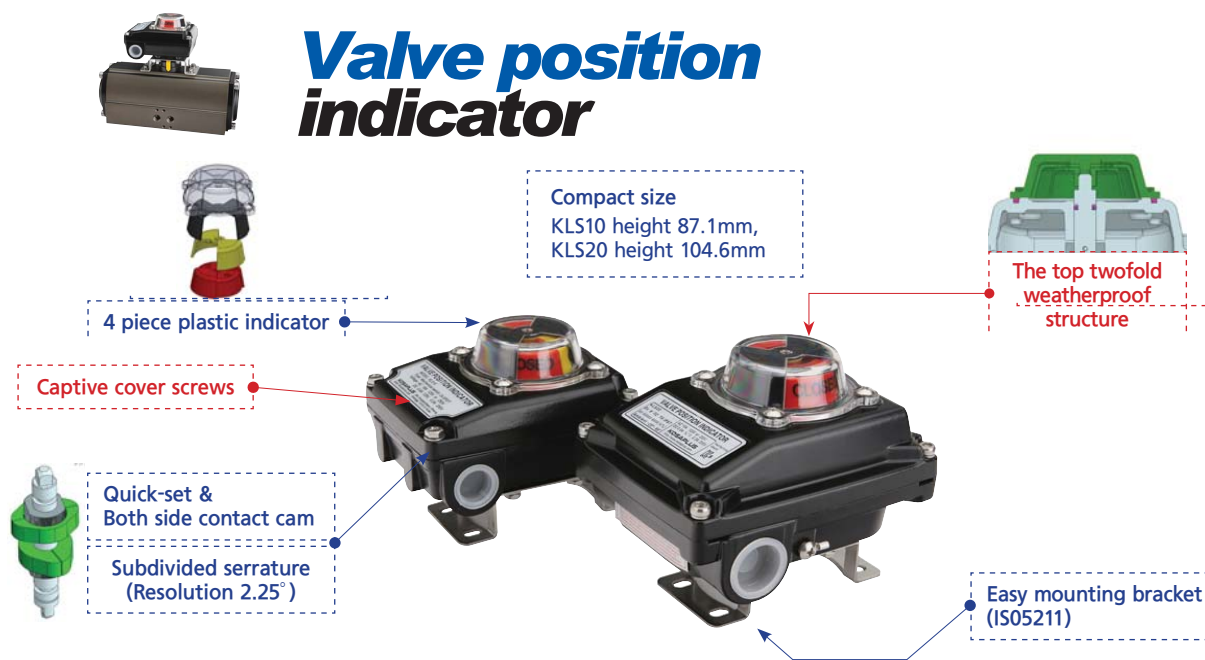


Model	L1	L2	X	X1	MODEL	L1	L2	X	X1
A50	315	410	127		A125	653	869	200	332
A65	396	512	162		A140	694	945	300	440
A80	460	628	202		A160	810	1085	300	440
A100	576	763	200	332	A210	948	1325	300	584

\*Torque of Pneumatic actuator with side hand wheel is different with standard, Please contact our staff.



# Valve position indicator



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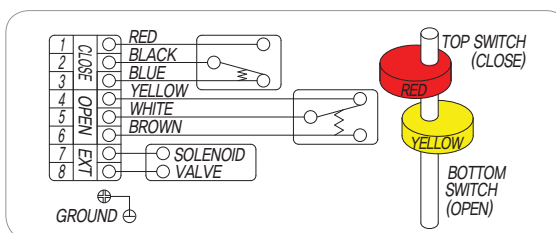
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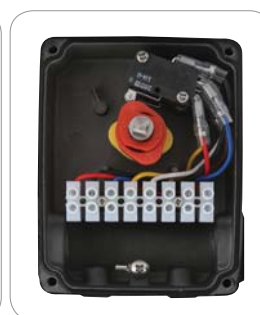
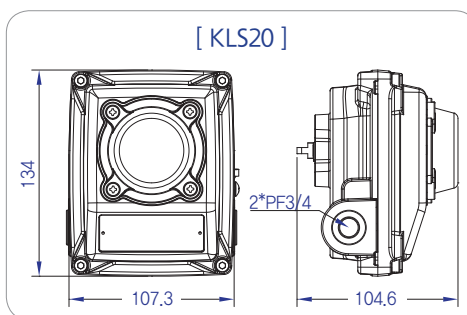
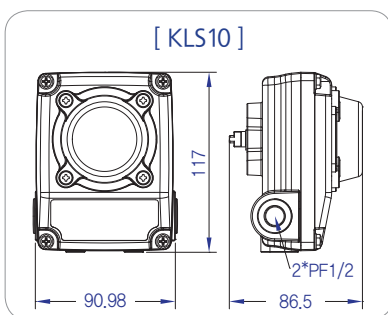
## Switch specification & Wiring

- CSA, RU, VDE, KC Approved.

Switch type	2*SPDT
Voltage	· AC 16A 125V or 250V · DC 0.6A 125V, 0.3A 250V
Enclosure protection	IP67, IP68



## Dimension



## Bracket

BS1	BS2	BS3	BS4
<b>Size</b> 50*25*20 (R40)	<b>Size</b> 30*80*20 (AR50-AR185)	<b>Size</b> 30*130*30 (AR210-A300)	<b>Size</b> 30*80(130)*20(30)(AR50-AR300)
<b>Material</b> Stainless steel	<b>Material</b> Stainless steel	<b>Material</b> Stainless steel	<b>Material</b> Stainless steel

# Limit switch box



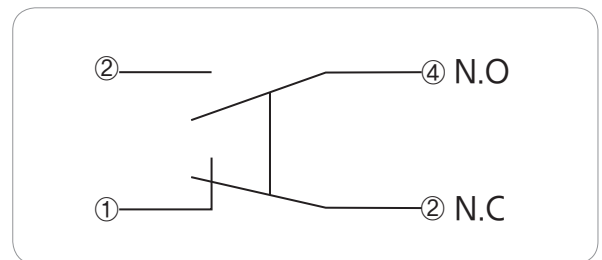
## ► Specification

Allowable operation speed		0.1 m ~ 1 m/s		
Insulation resistance		Min 100M $\Omega$ (500 V d.c insulated ohmmeter)		
Contact resistance		Max 50 m $\Omega$		
Dielectric strength	Between non-continuous terminal	AC 1,000V / 50-60Hz for 1 minute		
	Between each terminal and non-conduction metal part	AC 2,000V / 50-60Hz for 1 minute		
Vibration resistance		10-55Hz, double amplitude 1.5 mm		
Shock resistance	Destruction	Approx. 1,000 m/s <sup>2</sup>		
	Malfunction	Approx. 300 m/s <sup>2</sup>		
Mechanical life		2*SPDT		
Electrical life		Over 0.3 million operations (open/close frequency 20 times/min)		
Operating temp.		(open/close frequency 20 times/min)		
Operating humidity		45 ~ 85% RH		
Explosion proof type		Ex d IIC T6 IP67		
Rated voltage	Rated electro current (A)			
	Resistive load	Induction load	Electric motor load	
			N,C	N,O
AC 125 V	15	10	2	1
AC 250 V	10	6	1.5	0.75
DC 125 V	0.4	0.05	-	-
DC 250 V	0.2	0.03	-	-

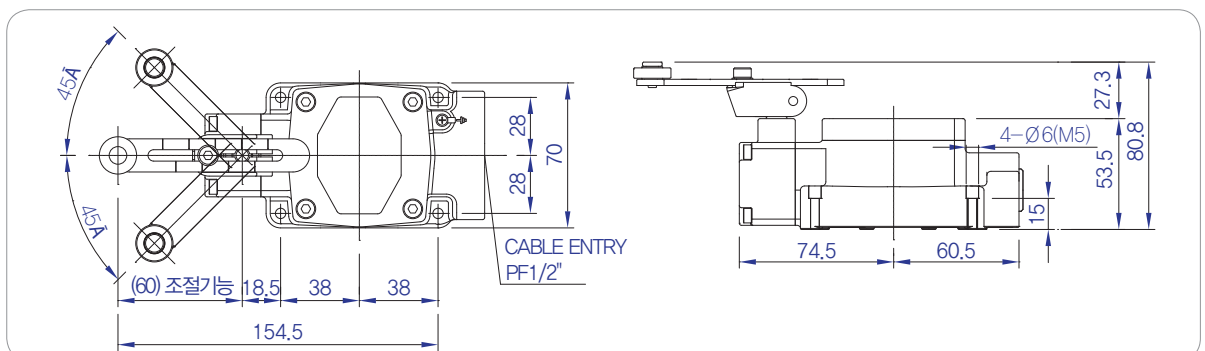
## ► Label

PROTECTION GRADE	KU100 Ex d IIC T6 IP67 15-KB2BO-0071 (KTL) Ambient -10° ~ 60°
ELECTRIC RATING	125V - 10A 250V - 5A 125VDC - 0.8A 250VDC - 0.4A

## ► Wiring



## ► Dimension



# Positioner

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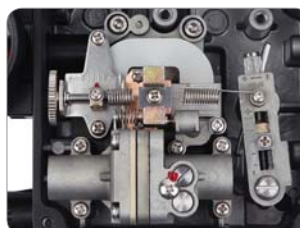
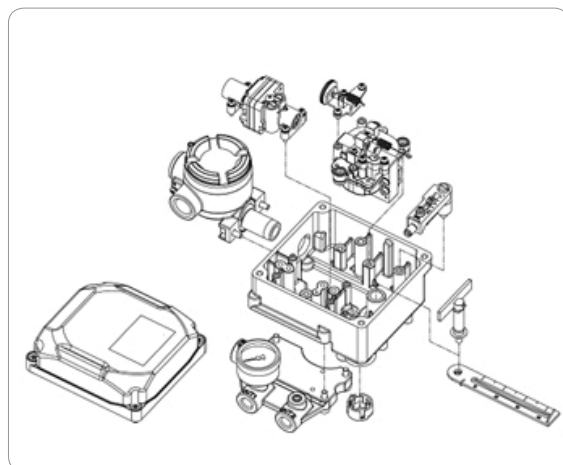


- Simple zero and span adjustment.
- Easy maintenance due to built-in module type.
- Strong to vibrations and No resonance between 5-200Hz.
- By-pass valve (A/M switch) installed.
- Air connection part is designed for detachability and it can be changed PF/NPT tapping threads in the field easily.

Type	KEP10L (Linear)		KEP10R (Rotary)	
	Single	Double	Single	Double
Input Signal	4~20mA DC			
Impedance	250±15Ω			
Supply Pressure	0.14~0.7MPa			
Stroke	10~150mm		0~90°	
Air Connection	PT 1/4 (NPT 1/4)			
Gauge Connection	PT 1/8 (NPT 1/8)			
Conduit	PF 1/2 (NPT 1/2)			
Explosion Proof	IP66			
Destruction	Operating Temp. -30°C~70°C (#L:-40°C~70°C/#H:-30°C~120°C)			
	Explosion Temp. -40°C~60°C(T5)/-40°C~40°C(T6)			
Linearity	±1.0% F.S	±2.0% F.S	±1.0% F.S	±2.0% F.S
Sensitivity	±0.2% F.S	±0.5% F.S	±0.2% F.S	±0.5% F.S
Hysteresis	±1.0% F.S			
Repeatability	±0.5% F.S			
Air Consumption	Blow 2.5LPM (Sup=0.14MPa)			
Flow Capacity	Over 80LPM (Sup=0.14MPa)			
Material	Aluminum Diecasting			
Weight	2.8Kg			

-Tested under ambient temperature of 20°C, absolute pressure of 760mmHg, and humidity of 65%.

Model code : KEP @B©C③-①			
③ Motion	L : Linear		
	R : Rotary		
© Explosion	N : Non		
	B : Ex dmb IIB		
	C : Ex dmb IIC		
	A : Ex ia IIC		
© Connection		Conduit	Air
	1 :	PF1/2	PT1/4
	2 :	PF1/2	NPT1/4
	3 :	NPT1/2	NPT1/4
③ Lever	Linear	1 : 10~40mm	
		4 : 40~70mm	
		7 : 70~100mm	
		0 : 100~150mm	
	Rotary	6 : M6*34L	
	N : Namur		
© Ambient Temp.	S : -30°C~70°C		
	L : -40°C~70°C		
	H : -30°C~120°C		
① Option	F : 4~20mA Feedback signal		
	L : Limit switch included (2xSPDT)		
	2 : Feedback+Limit switch		



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## ► A series (scotch yoke) ISO5211 / Stem / Weight

MODEL	ISO5211	STEM	AD(Kg)	AS(Kg)
A50	F03/F05/F07	11*11	1.4	1.6
		#14*14		
		#9.7*15		
A65	F05/F07	14*14	2.3	3.0
		#11*11		
		#11.7*Ø17		
A80	F07	17*17	3.9	5.3
		#14.7*Ø19		
A100	F07/F10	22*22	6.7	9.5
A125	F07/F10	#17.7*Ø22		
A140	F10/F12	22*22	11.3	17.6
		27*27		
A160	F14	#22*22	16.4	23.9
		36*36		
A185	F14	#27*27	23.7	36.6
		36*36		
A210	F16	46*46	34.8	56.9
		#36*36		
A250	F16	46*46	45.5	77.2
A300	F16/F25	55*55	65.8	119.6
			165	275.5

#Option

## ► R series (rack pinion) ISO5211 / Stem / Weight

MODEL	ISO5211	STEM	RD(Kg)	RS(Kg)
RD32	F03	9*9	0.3	-
R40	F03/F05	9*9	0.5	0.6
	#F04			
R50	F03/F05/F07	11*11	1.0	1.1
	#F04			
R65	F05/F07	14*14	1.4	1.5
	#F04/F07			
R80	F05/F07	17*17	2.9	3.3
R90	F07	17*17	3.4	3.8
R100	F07/F10	22*22	4.7	5.4
		#17*17		
R115	F07/F10	22*22	6.7	7.5
R125	F07/F10	22*22	8.6	9.9
R140	F10/F12	27*27	12.4	14.5
		#22*22		
R160	F10/F12	27*27	16.9	19.5
R185	F10/F12	36*36	24.2	29.0
R210	F14	36*36	32.3	37.9

#Option